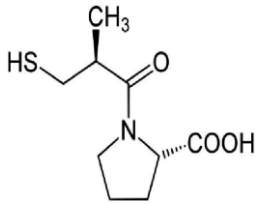
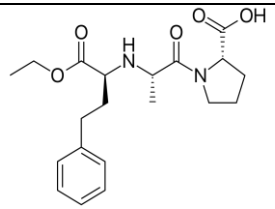
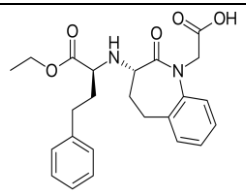
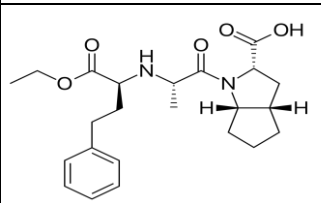
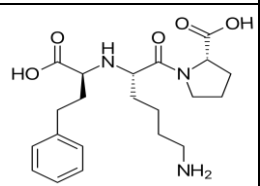
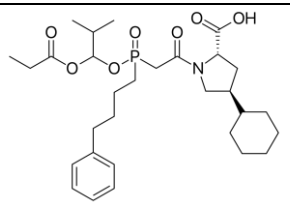
Angiotensin converting enzyme (ACE) inhibitors drugs

Name of drugs	Captopril Capoten®	enalapril enalaprilat, Epane®	Benazepril Lotensin®	Ramipril aitace®	linsopril Prinivil, Zestri®	fosinopril Monopril®
structure						
Mechanism of action	Angiotensin converting enzyme (ACE) inhibitors dilate arteries and veins by competitively inhibiting the conversion of angiotensin I to angiotensin II (a potent endogenous vasoconstrictor) and by inhibiting bradykinin metabolism; these actions result in preload and afterload reductions on the heart. ACE inhibitors also promote sodium and water excretion by inhibiting angiotensin-II induced aldosterone secretion; elevation in potassium may also be observed. ACE inhibitors also elicit renoprotective effects through vasodilation of renal arterioles ACE inhibitors reduce cardiac and vascular remodeling associated with chronic hypertension, heart failure, and myocardial infarction					
uses	Acute Hypertension Congestive Heart Failure ,Myocardial Infarction, Diabetic Nephropathy	Hypertension Left Ventricular Dysfunction Congestive Heart Failure	Hypertension, Nephropathy-Nondiabetic (Off-label)	Hypertension, Heart Failure (Post-Myocardial Infarction)	Acute Myocardial Infarction, hypertension , Heart Failure	Hypertension, Congestive Heart Failure Adjunctive to diuretics &/or digitalis.
Adverse effects	Hypersensitivity rxns ,Skin rash, Dysgeusia Hypotension ,Pruritus,Cough ,Chest pain ,Tachycardia	Dizziness, Hypotension ,Headache ,Chest pain , Cough ,Rash	Cough ,Headache ,Dizziness ,Fatigue Postural dizziness ,Serum creatinine increased ,Somnolence ,Nausea ARF if renal artery stenosis	Cough ,Hypotension ,Headache ,Angina pectoris ,Dizziness ,Nausea ,Vomiting ,Postural hypotension ,Syncope, Vertigo , Abnormal kidney function ,Diarrhea ,Angioedema	Asthenia, Angina pectoris, Nausea, Dyspnea, Cough, Pruritus	Dizziness, Cough , Headache ,Hyperkalemia ,Diarrhea ,Orthostatic hypotension ,Fatigue.
Half-life	1.9 hr (healthy); 2.06 (heart failure); 20-40 hr (anuria);	6 hr (IV), 12-24 hr (PO)	10-11 hr	13-17 hr (ramiprilat)	12 hr	12 hr
onest	initial response: 15-30 min; peak response: 60-90min	1 hr	1-2 hr (peak effect with 2-20 mg dose)	1hr Ramipril, 2-4hr ramiprilat	1 hr (initial); 6 hr (peak)	1 hr
bioavailability	70-75%	60%	37%	50-60%; not affected by food	25%	36%
Protine bound	25-30%	50 – 60%	95-97%	73% (ramipril), 56% (ramiprilat)	25%	95%
metabolism	liver (50%)	Liver (70%);	liver	by liver	Does not undergo metabolism.	Liver
excration	mainly urine (95%)	Urin 61%, feces 33%	Urine (primarily); bile (11-12%)	Urine (60%), feces (40%)	unchanged entirely in the urine.	Urine (45-50%); feces (45-50%)

Reference: Medscape

By: Rezg Alsunah